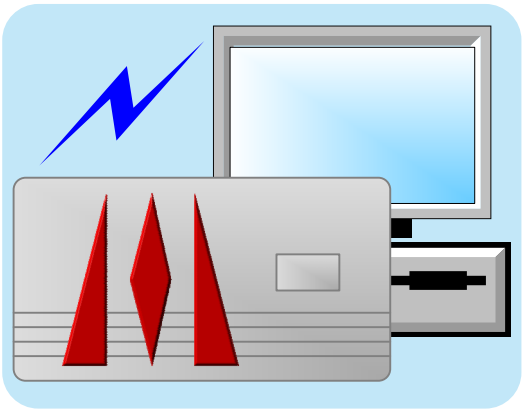
COMMUNICATOR

Communications Interface Software
User Manual

Manual Rev 3

4/23/15



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Communicator

Communications Interface Software

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Manual Rev 2

Preface

The AGM **Communicator** is a Terminal Emulator / WEB Browser software program that includes a set of specialized tools to simplify connection to and communication with a number of AGM products such as the Data Handler (DH), General Purpose Modem (GPM), Data Controller (DC) and Site to Site Transfer module (SST).

Features

- Automatic detection of available PC Communication Ports
- Automatic detection of Connected Product
- Dial-Up Modem setup window
- Customizable Column headings for *.csv stored files
- Product dependent, Built–in Communication Commands
- Simple to use Connection Settings Screen
- On-Screen connection status
- Multiple Connection file storage

NOTE: Refer to the Device's **User Manual** or **Project Book** for other information that is not covered in this manual

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1. System Requirements

Hardware

Processor:	Pentium 1 GHz or faster.
RAM:	512 MB or higher.
Other:	One or more serial communications ports.

Software

Operating Systems:

- Windows XP
- Windows Server 2003
- Windows Vista
- Windows 7

Other Software: Microsoft Internet Explorer 5.01 or later

2. Software Installation

Insert the AGM Electronics' **Communicator CD-ROM** into your **CD-ROM** drive and follow the on-screen instructions. If installation does not automatically begin then:

1. From the windows taskbar, click **Start** and choose **Run**
2. In the Run dialog, type **D:\SETUP.EXE**, where **D** is the name of your **CD-ROM** drive
3. Click **OK** and follow the on-screen instructions

NOTES:

1. The installation will add Microsoft .Net 4.0 Framework to your computer if it not already installed. On older Windows operating systems this may take as long as one hour.

   Microsoft .Net 4.0 Framework provides a large source of pre-coded, tested and proven software solutions to common program requirements that include user interface, data access, database connectivity, numeric algorithms, and network communications.

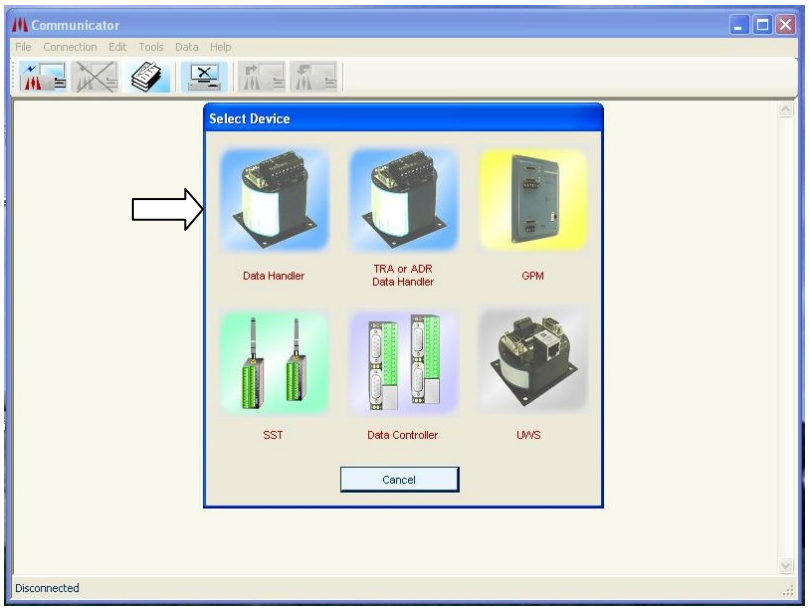
   Microsoft .Net 4.0 Framework also helps to insure system stability over a broad range of Windows Operating Systems and reduces the vulnerability of applications and computers to security threats.

2. Screen images used in this manual were selected on a PC running Windows XP Operating System. Therefore screen images may differ slightly than those shown in this manual if your PC is using a different version of Windows.

3. During installation one or more security messages may be displayed asking you to confirm the installation. This is normal, and you should continue with the installation.

Application Install - Security Warning
Publisher cannot be verified.
Are you sure you want to install this application?
Name:
AGM Communicator
From (Hover over the string below to see the full domain):
Publisher:
Unknown Publisher
Install
Don't Install
While applications from the Internet can be useful, they can potentially harm your computer. If you do not trust the source, do not install this software. More Information...

When the installation has completed you should see the following on your computer screen –



From this screen pick the AGM device you are using.

NOTE: When the **Communicator** is used with the SST you may need to install a USB driver. The USB driver is found on the **Communicator CD-ROM** in the **USB_DriverForSST** folder. Run one of the following installation files depending on the version of Microsoft Windows you are using:

CP210xVCPInstaller_x86.exe for 32 bit Windows
CP210xVCPInstaller_x64.exe for 64 bit Windows.

3. Uninstalling Communicator

To uninstall **Communicator**, use Add or Remove Programs in Windows Control Panel.

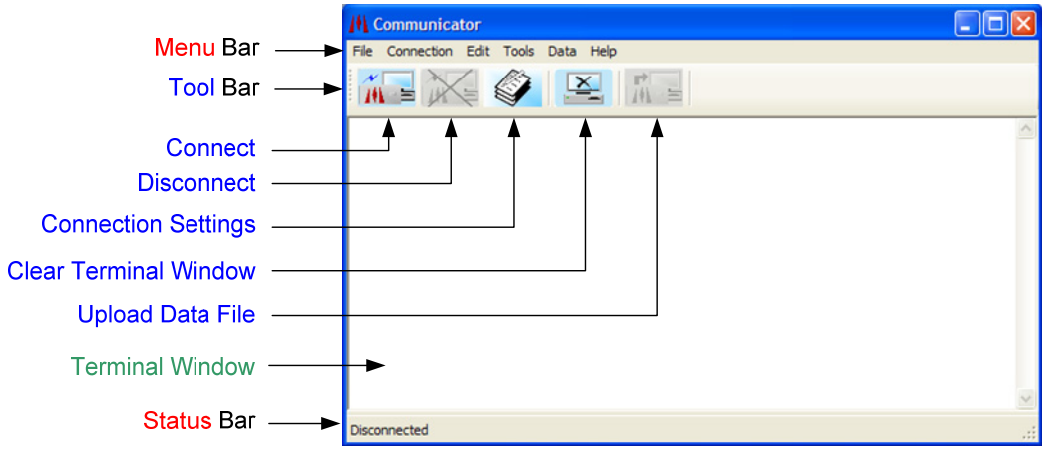
NOTE:

Microsoft's .NET 4.0 Framework may be shared by applications other than **Communicator**. Do not uninstall the .NET 4.0 Framework unless you know that there are no other programs using .NET 4.0 Framework.

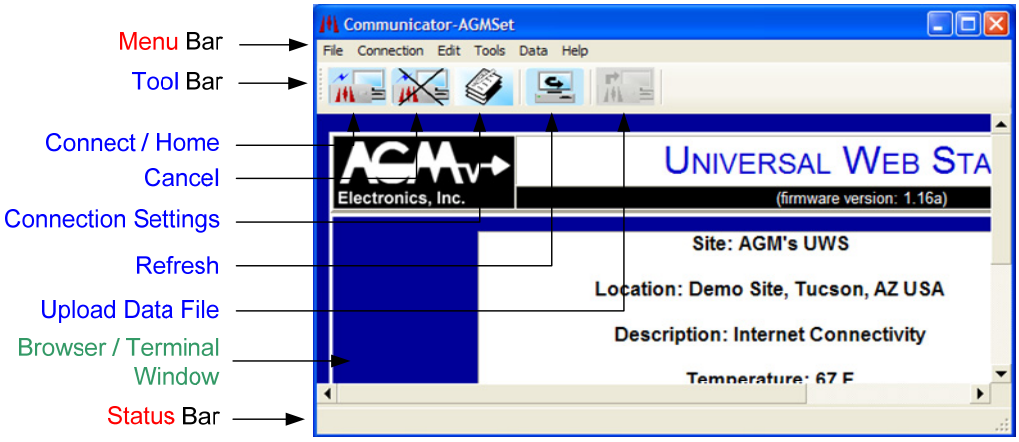
Uninstalling **Communicator** will not uninstall the .NET 4.0 Framework.

4. Communicator Screen Overview

Serial **Communicator –**



Ethernet **Communicator –**



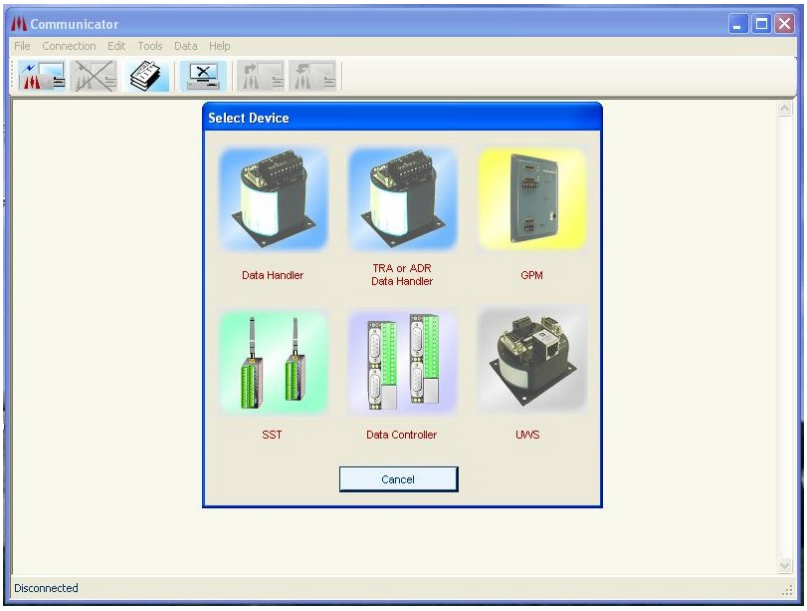
5. Using Communicator to Connect to a Device for the first time

5.1. If you are ready to communicate then –

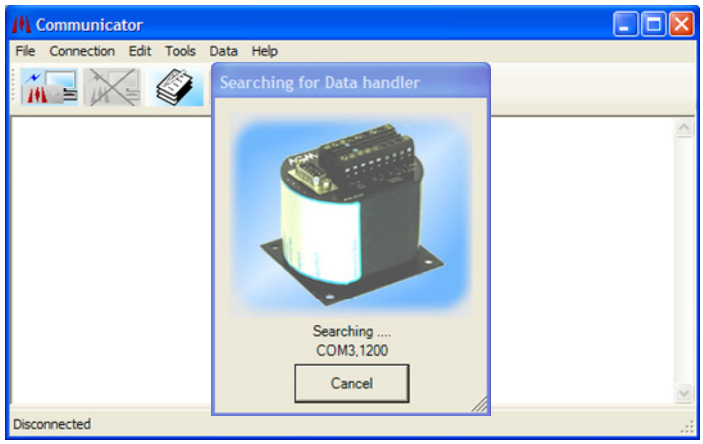
Select Device to connect to –

5.1.1. Connecting to an AGM Data Handler

1. See Appendix 1 for several different options for Connecting the PC to the Data Handler
2. Once the Data Handler is connected to the PC, start the Communicator program to get the following -

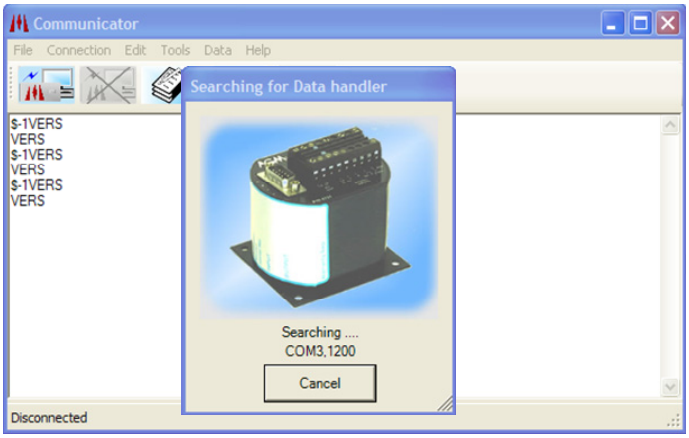


3. Select *Data Handler* to see the following Pop-Up Window –



4. The **AutoConnect** will now attempt to make a Connection to the Data Handler by checking each available Com Port, Baud Rate and whether or not the device is addressed.

   Note: The Commands used to detect the Data Handler may or may not be echoed to the Terminal Screen while **AutoConnect** is searching for the Data Handler.



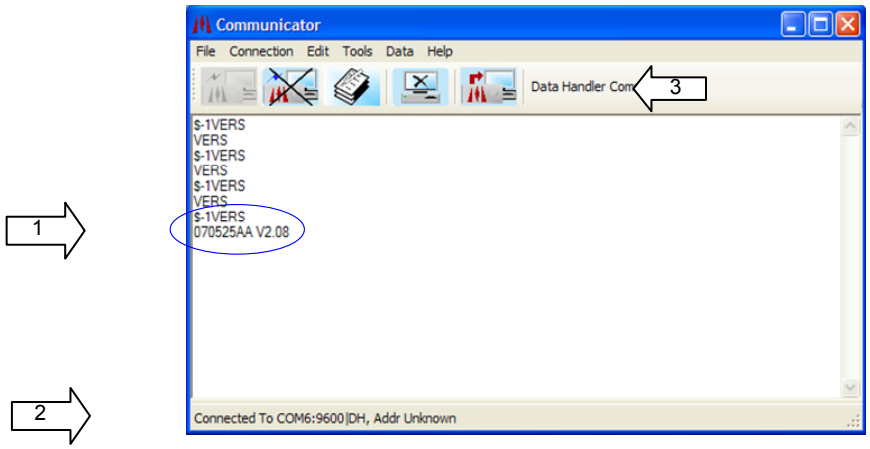
5. If **AutoConnect** successfully detected the connected Data Handler then you will see a window similar to the following –

   Note: Commands may or may not be echoed to the Terminal Screen while **AutoConnect** is searching for the Data Handler.

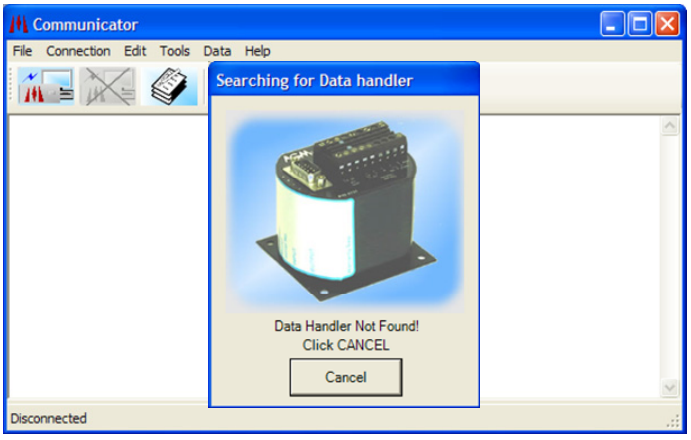
   1 Firmware Version reported back by the connected Data Handler

   2 Status Bar showing Com Port in use, Baud Rate, Connected Device (Data Handler) and that the Data Handler is addressed even though the Address is not known

   Drop Down List of Common Data Handler Commands

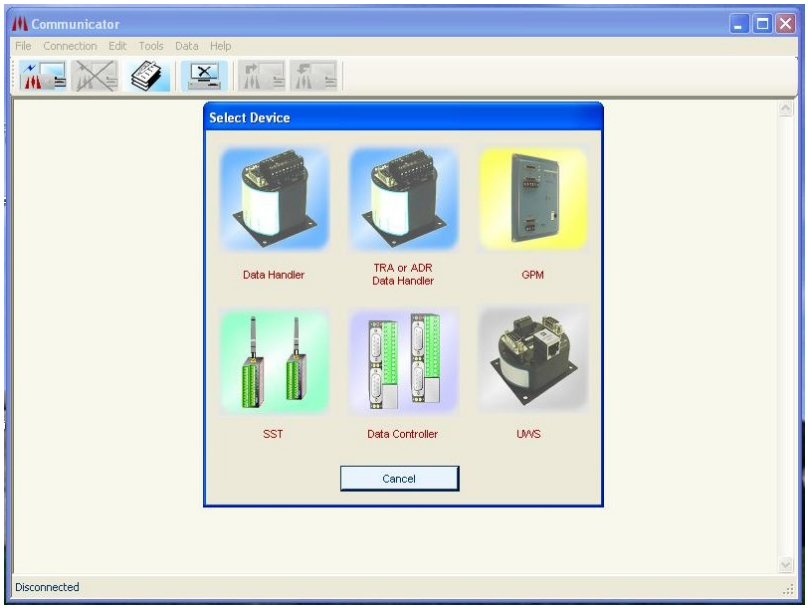


   Note: If **AutoConnect** was not successful detecting the connected Data Handler then you will see a window similar to the following –

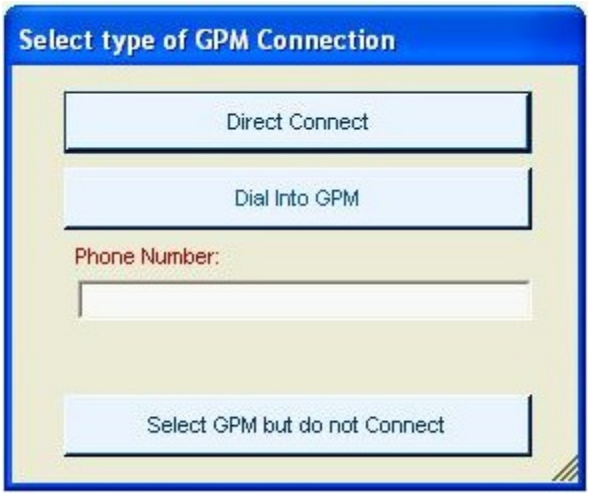


5.1.2. Connecting to an AGM GPM

1. See Appendix 1 for several different options for Connecting the PC to the GPM
2. Once the GPM is connected to the PC, start the Communicator program to get the following –



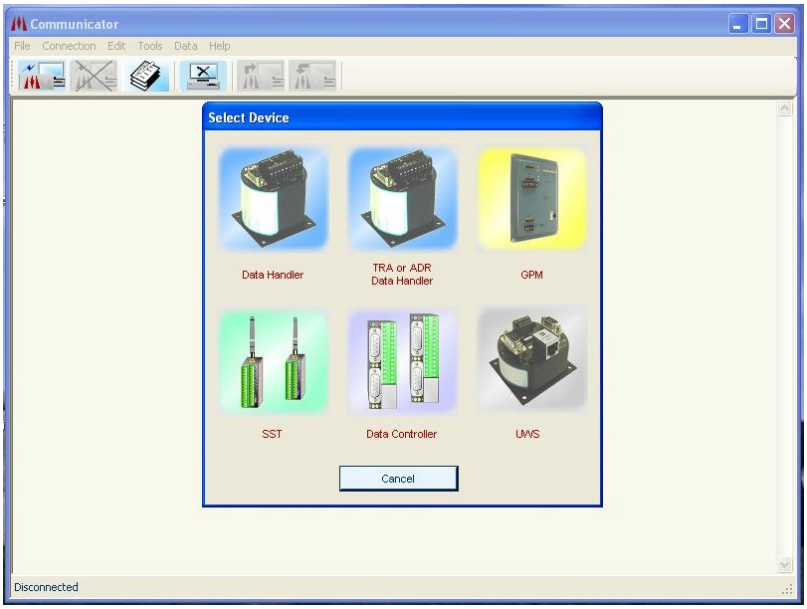
6. Select *GPM* to see the following Pop-Up Window –



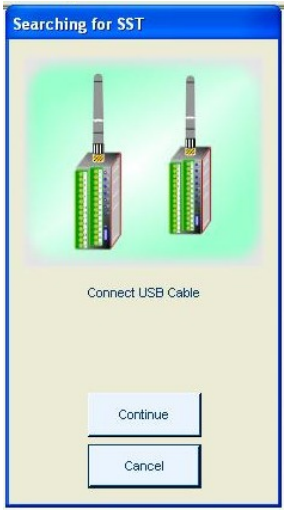
3. Select *Direct Connect* if directly connected to a GPM via a RS232 serial port or enter the phone number to the GPM and select *Dial into GPM* if connecting over the phone line.

5.1.3. Connecting to an AGM Site to Site Transfer (SST) module

1. See Appendix 1 for connecting the PC to the SST
2. Once the SST is connected to the PC, start the Communicator program to get the following -



3. Select *SST* to see the following Pop-Up Window –



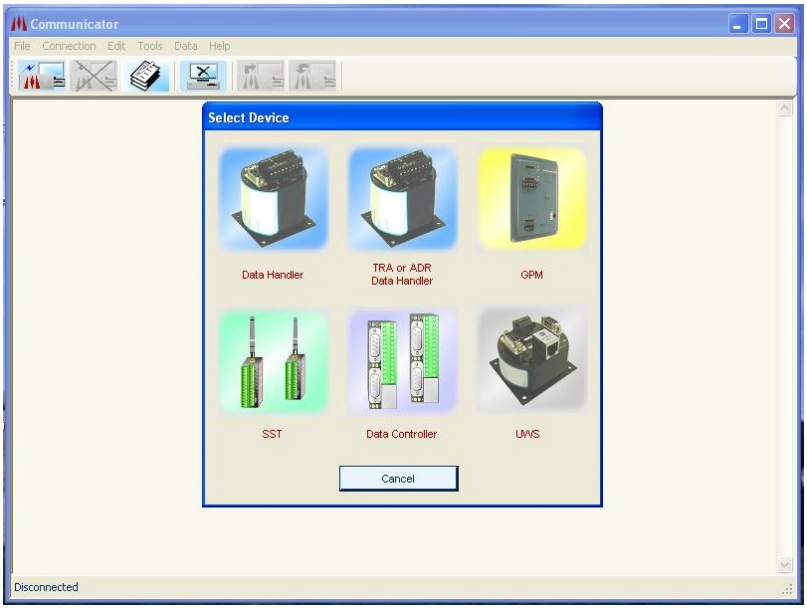
Click on the *Continue* button to start **AutoConnect.**

4. **AutoConnect** will now attempt to make a Connection to the SST by checking each available Com Port.

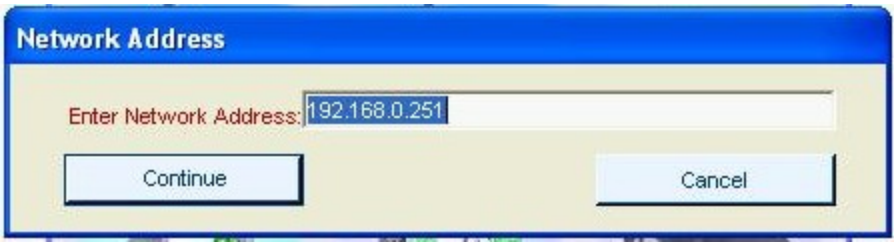
5. If **AutoConnect** successfully detected the connected SST then you will see the SST menu –

5.1.4. Connecting to an AGM Data Controller

1. See Appendix 1 for several different options for Connecting the PC to the Data Controller
2. Once the Data Controller is connected to the PC, start the Communicator program to get the following –



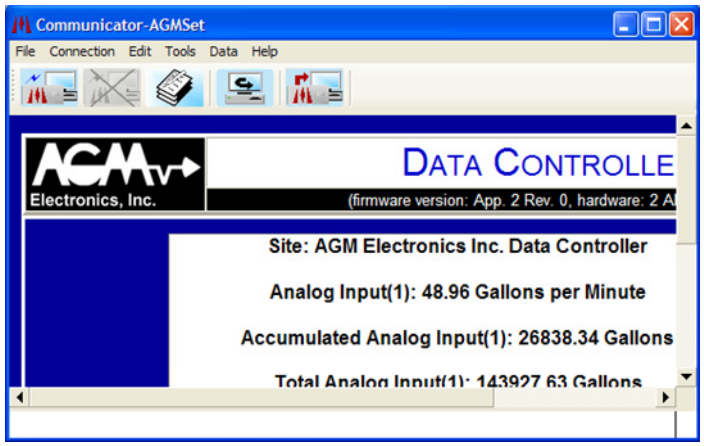
3. Select the *Data Controller* to get the following –



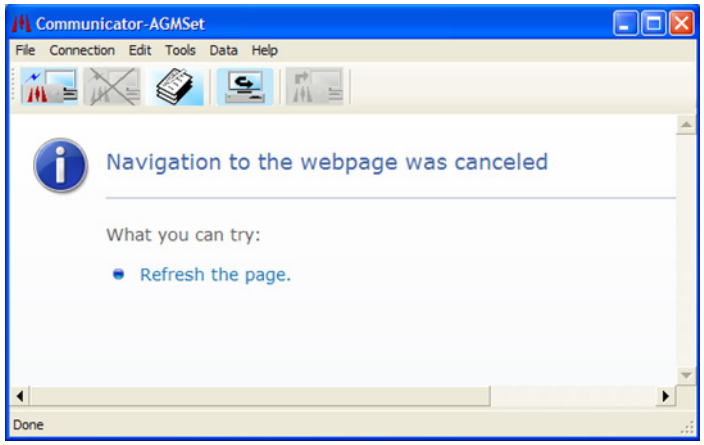
NOTE: If using a TCP port other than 80, enter the TCP port number after the IP address separated by a colon.

Example: 192.168.0.251:8080

4. Enter the Network Address of the Data Controller and the select *Continue* to see something similar to the following –

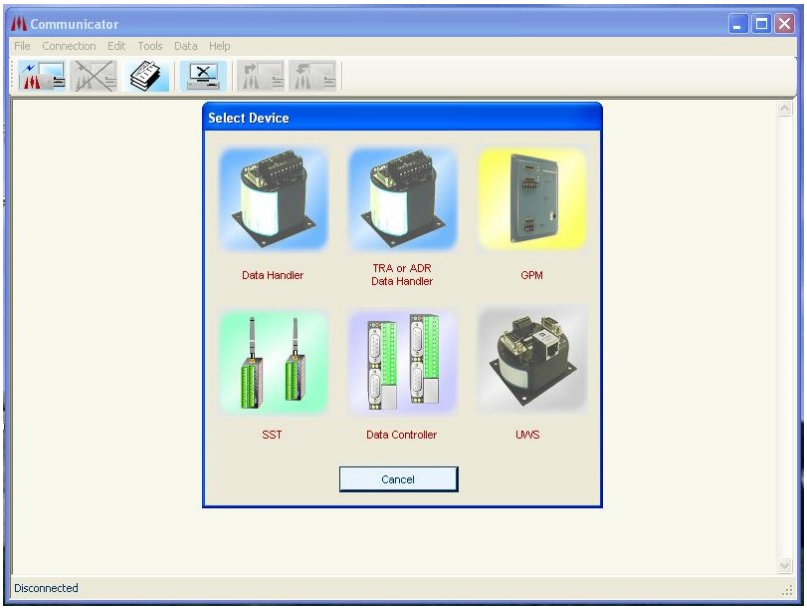

Communicator-AGMSet
File Connection Edit Tools Data Help
Electronics, Inc.
DATA CONTROLLE
(firmware version: App. 2 Rev. 0, hardware: 2 A
Site: AGM Electronics Inc. Data Controller
Analog Input(1): 48.96 Gallons per Minute
Accumulated Analog Input(1): 26838.34 Gallons
Total Analog Input(1): 143927.63 Gallons

Note: If the **Communicator** does not connect to the Data Controller then you will see something similar to the following –

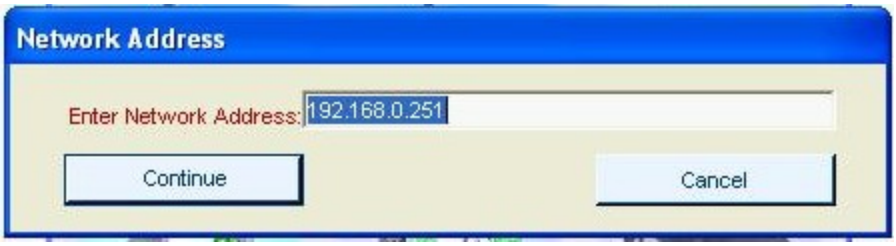


5.1.5. Connecting to an AGM UWS

1. See Appendix 1 for several different options for Connecting the PC to the UWS
2. Once the UWS is connected to the PC, start the Communicator program to get the following -



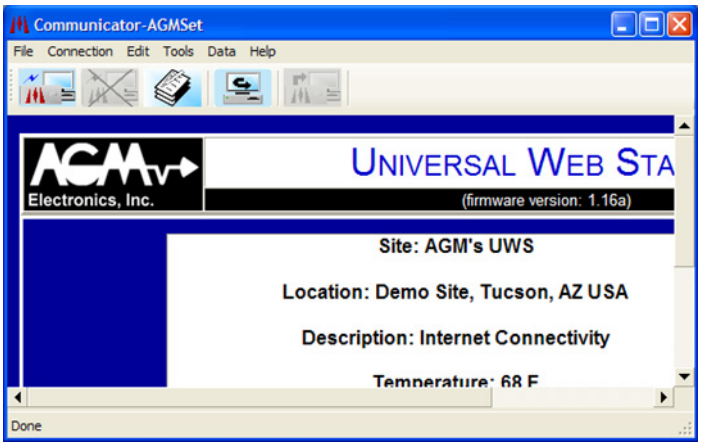
3. Select the *UWS* to get the following –



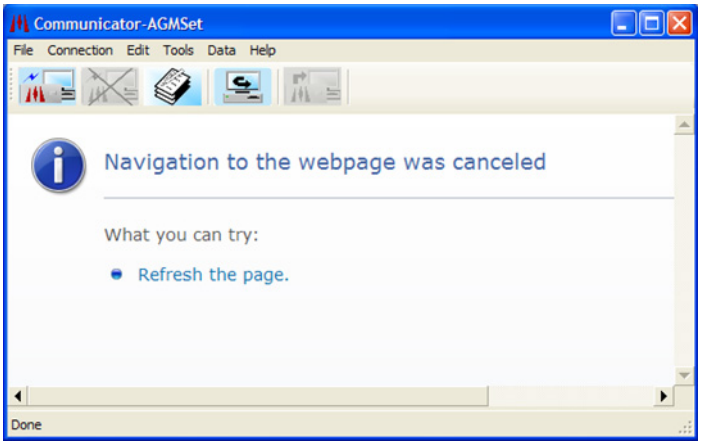
NOTE: If using a TCP port other than 80, enter the TCP port number after the IP address separated by a colon.

Example: 192.168.0.251:8080

4. Enter the Network Address of the UWS and the select *Continue* to see something similar to the following –



Note: If the **Communicator** does not connect to the UWS then you will see something similar to the following –

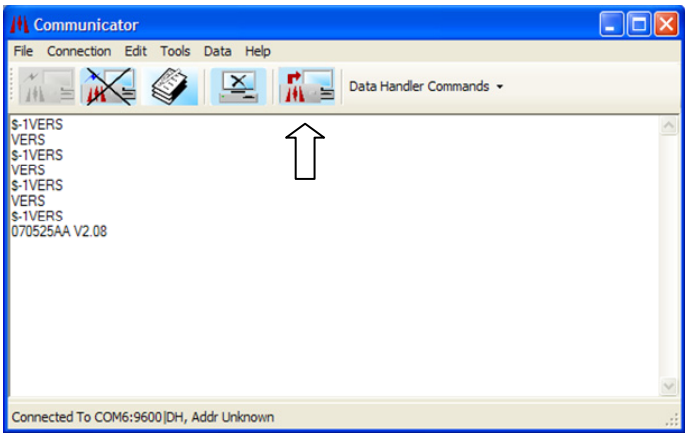


NOTE:

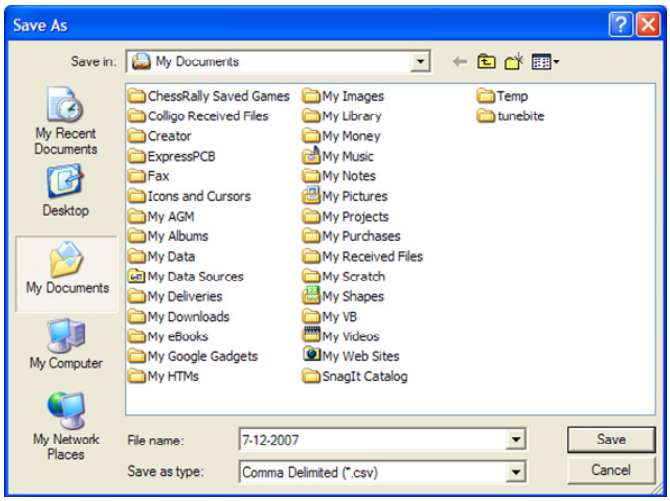
If you would like to use these Settings again, under “File” on the Menu Bar select *Save* and follow the prompts. The next time **Communicator** is started, you will be able to select the saved settings file.

6. Uploading a Logged Data File from the Data Handler

6.1. Select *Upload Data*,



6.2. To get the following screen –



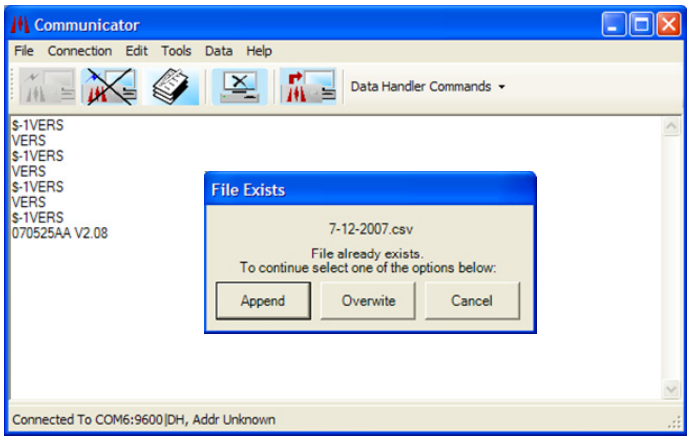
NOTE:

The default name of the Logged File will be the PC's date (mm-dd-yyyy) and will be save as a Comma Separated Variable (*.csv) file type that can be imported by a number of Spread Sheet and Data Base software application programs including Microsoft's Excel. If you would like a different file name, you can change it at this time.

The default location of where the file will be created is My Documents for the current PC user. You can select another location such as the Desk Top at this time as well.

When ready, select *Save* to continue.

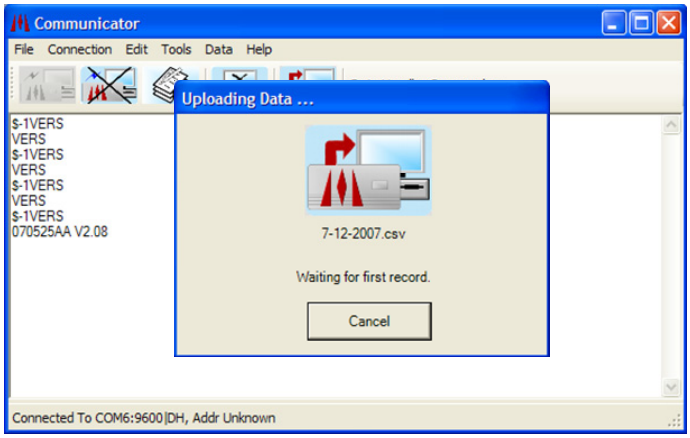
If a file with the same name is detected, you see the following –



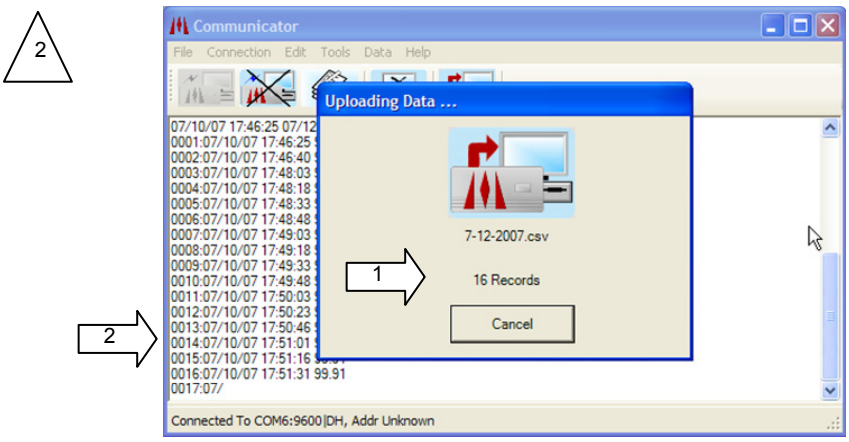
Select *Append* if you would like the data added to the existing file, *Overwrite* if you want the file replaced or C*ancel* if you would like the opportunity to select another file name.

If you continue to upload the recorded data, you will see the following –

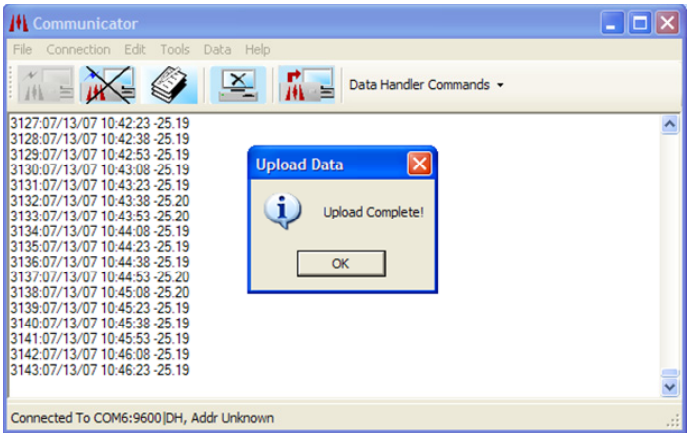
1



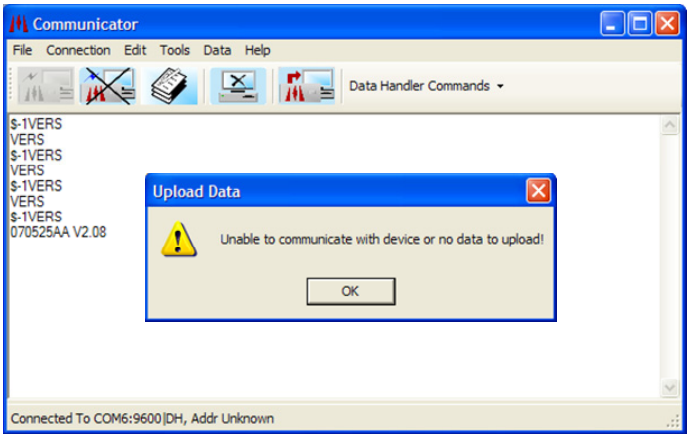
The Uploading Data… window will show the number of records 1 that have been uploaded, while at the same the data being uploaded will be echoed in the Terminal Screen 2 .



When the Data has completed uploading, you will see the following –



If the **Communicator** can not locate the Data Handler or there is some other type of connection problem, you will see the following –


Communicator
File Connection Edit Tools Data Help
Data Handler Commands
Upload Data
Unable to communicate with device or no data to upload!
OK
Connected To COM6:9600|DH, Addr Unknown

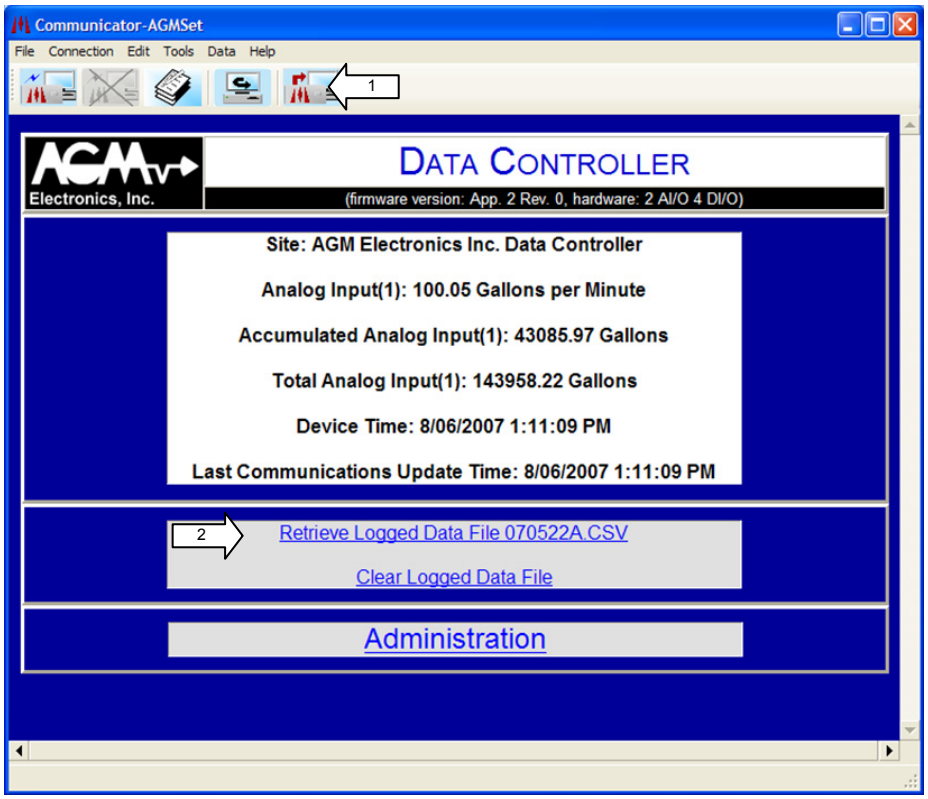
7. Uploading a Logged Data File from the Data Controller

7.1. Select *Upload Data File*,

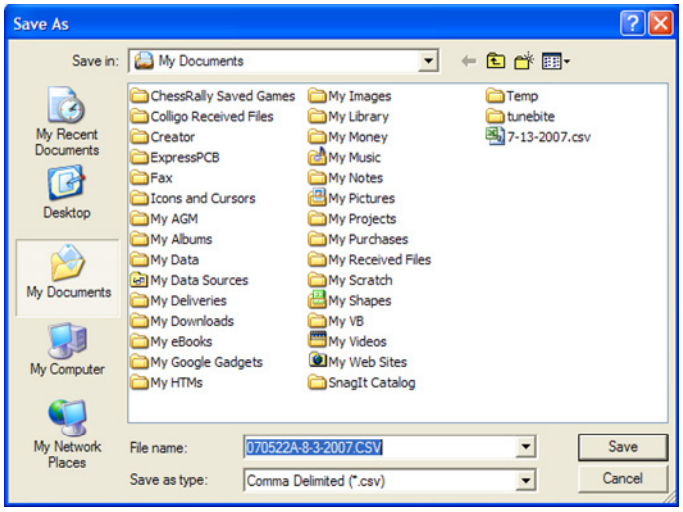
NOTES:

1) You can initiate uploading by either selecting the *Upload Data File* 1 button on the Tool Bar or *Retrieve Logged Data File* 2 hypertext link in the Browser Window.

2) The Upload Data File function may not be available on all Data Controller firmware versions. Data Controller with firmware version App 2 screen is shown.


Communicator-AGMSet
File Connection Edit Tools Data Help
1
Electronics, Inc.
DATA CONTROLLER
(firmware version: App. 2 Rev. 0, hardware: 2 AI/O 4 DI/O)
Site: AGM Electronics Inc. Data Controller
Analog Input(1): 100.05 Gallons per Minute
Accumulated Analog Input(1): 43085.97 Gallons
Total Analog Input(1): 143958.22 Gallons
Device Time: 8/06/2007 1:11:09 PM
Last Communications Update Time: 8/06/2007 1:11:09 PM
2
Retrieve Logged Data File 070522A.CSV
Clear Logged Data File
Administration

7.2. To get the following screen –



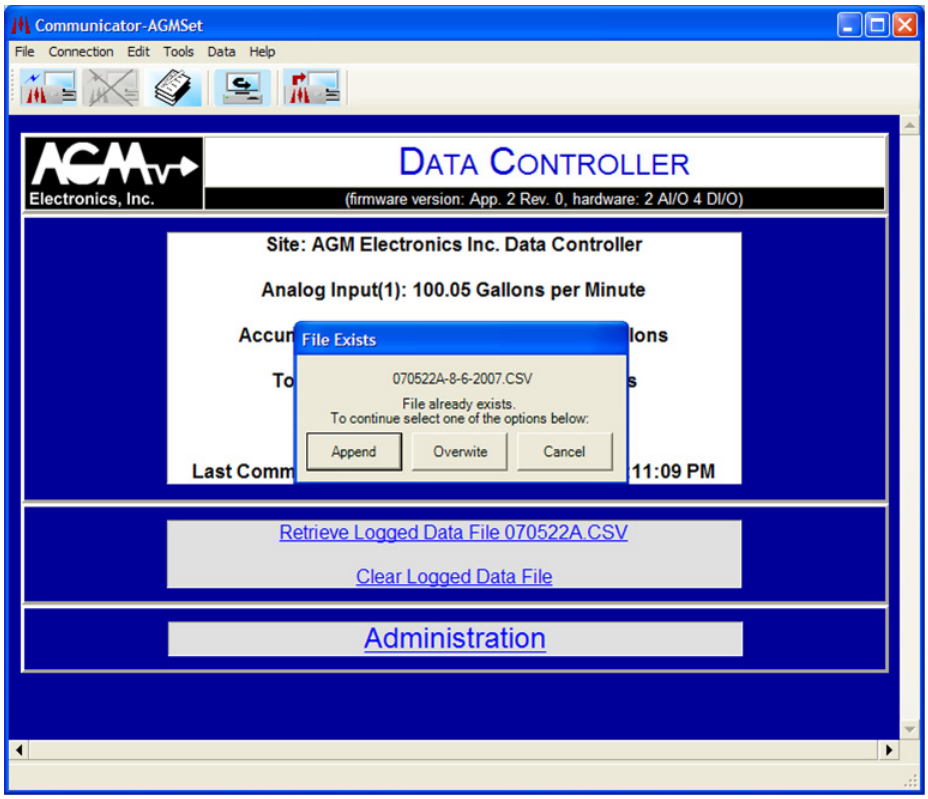
NOTE:

The default name of the Logged File will be the File Name entered into the Data Control plus the PC's date (mm-dd-yyyy) and will be saved as a Comma Separated Variable (*.csv) file type that can be imported by a number of Spread Sheet and Data Base software application programs including Microsoft's Excel. If you would like a different file name, you can change it at this time.

The default location of where the file will be created is My Documents for the current PC user. You can select another location such as the Desk Top at this time as well.

When ready, select *Save* to continue.

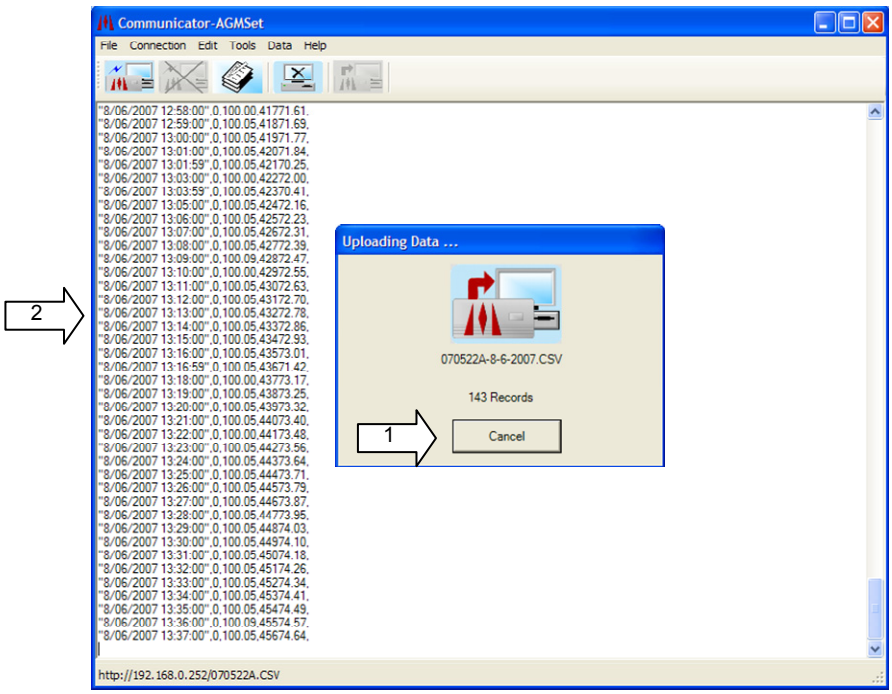
If a file with the same name is detected, you see the following –



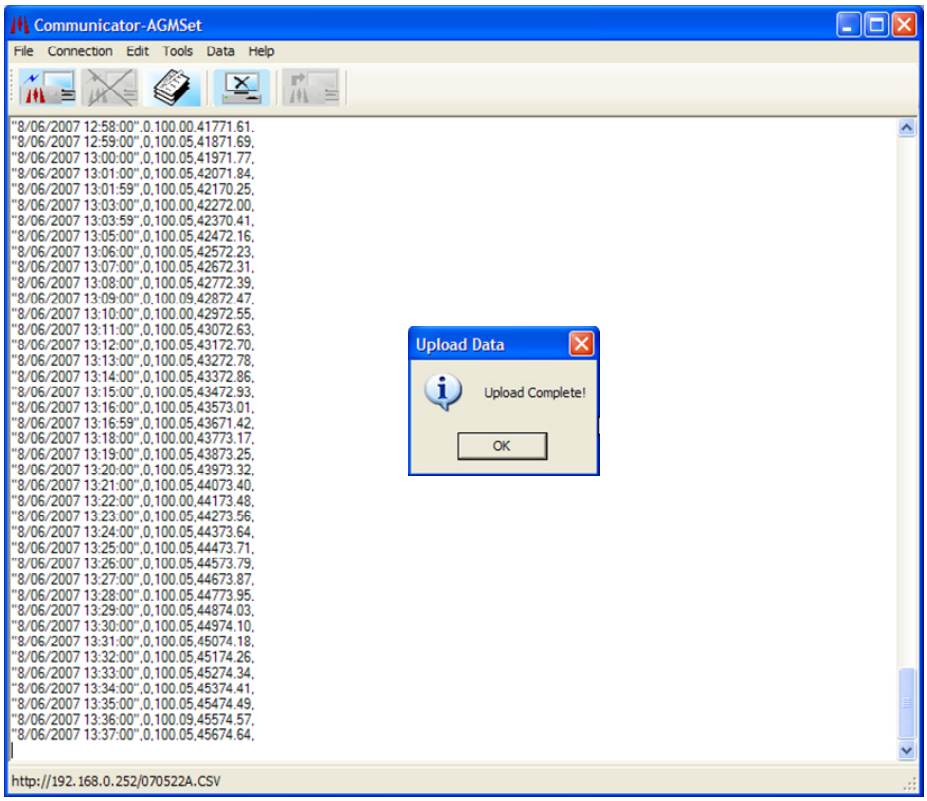
Select *Append* if you would like the data added to the existing file, *Overwrite* if you want the file replaced or C*ancel* if you would like the opportunity to select another file name.

If you continue to upload the recorded data, you will see the following –

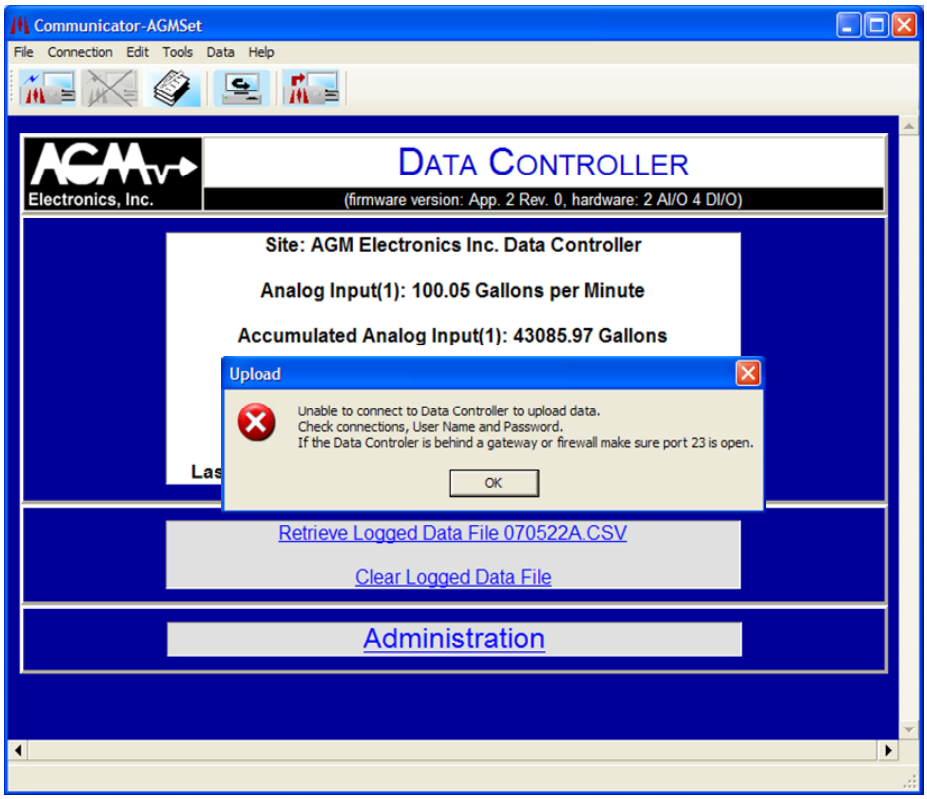
The Uploading Data… window will show the number of records 1 that have been uploaded, while at the same time the data being uploaded will be echoed in the Terminal Screen 2.



When the Data has completed uploading, you will see the following –

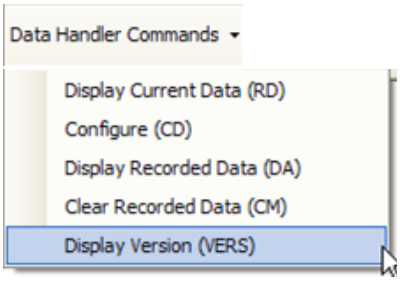


If the **Communicator** can not locate the Data Controller or there is some other type of connection problem, you will see the following –


Communicator-AGMSet
File Connection Edit Tools Data Help
Electronics, Inc.
DATA CONTROLLER
(firmware version: App. 2 Rev. 0, hardware: 2 AI/O 4 DI/O)
Site: AGM Electronics Inc. Data Controller
Analog Input(1): 100.05 Gallons per Minute
Accumulated Analog Input(1): 43085.97 Gallons
Upload
Unable to connect to Data Controller to upload data.
Check connections, User Name and Password.
If the Data Controler is behind a gateway or firewall make sure port 23 is open.
OK
Retrieve Logged Data File 070522A.CSV
Clear Logged Data File
Administration

8. Using Data Handler Commands

When the **Communicator** Settings are configured to communicate with a Data Handler, the following drop down selection of commonly used Data Handler commands is available –



The Data Handler commands along with the Data Handler's response are echoed to the Terminal Window.

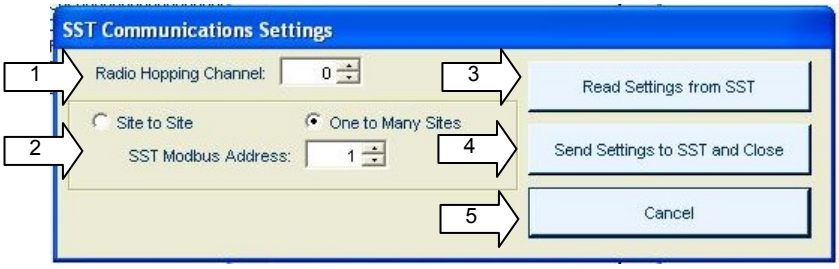
The Data Handler's Commands may also be manually entered from the PC's Key Board.

9. Configuring the SST

When you connect to the SST the following menu will be displayed –

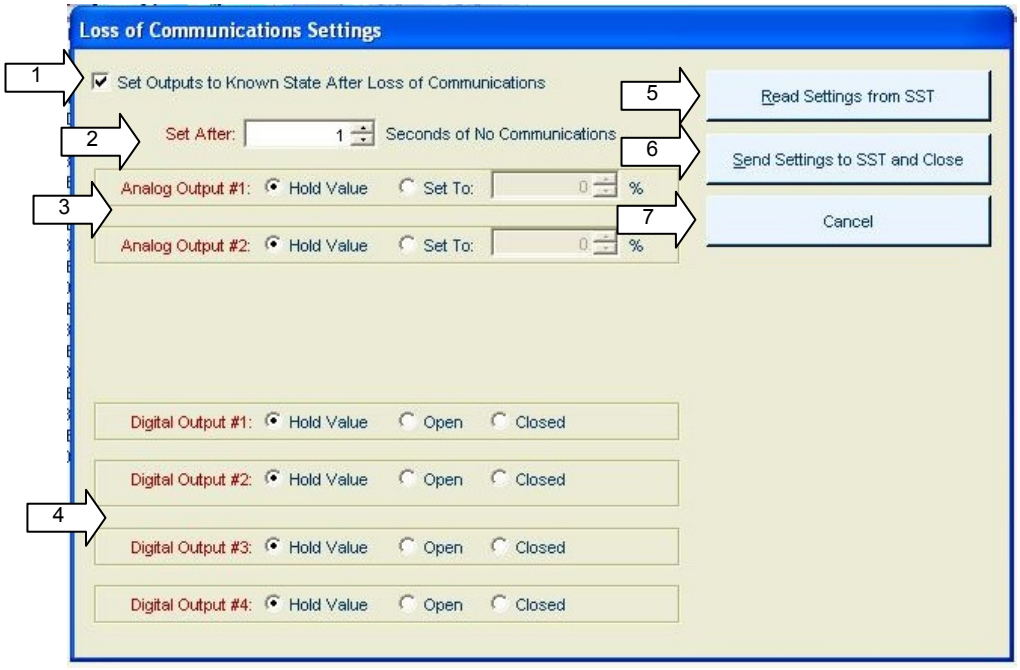
The available options are –

9.1. Communications Settings



1. Hopping channel for radio (0 – 9).
2. Modbus Address (1 – 254). Only available when *One to Many Sites* is selected. When using *One to Many Sites* each SST must have a unique Modbus Address. When *Site to Site* is selected then the Modbus Addresses are automatically selected.
3. Re-reads the settings from the SST.
4. Sends the Communications Settings to the SST then returns to the SST menu.
5. Returns to the menu without modifying the Communications Settings.

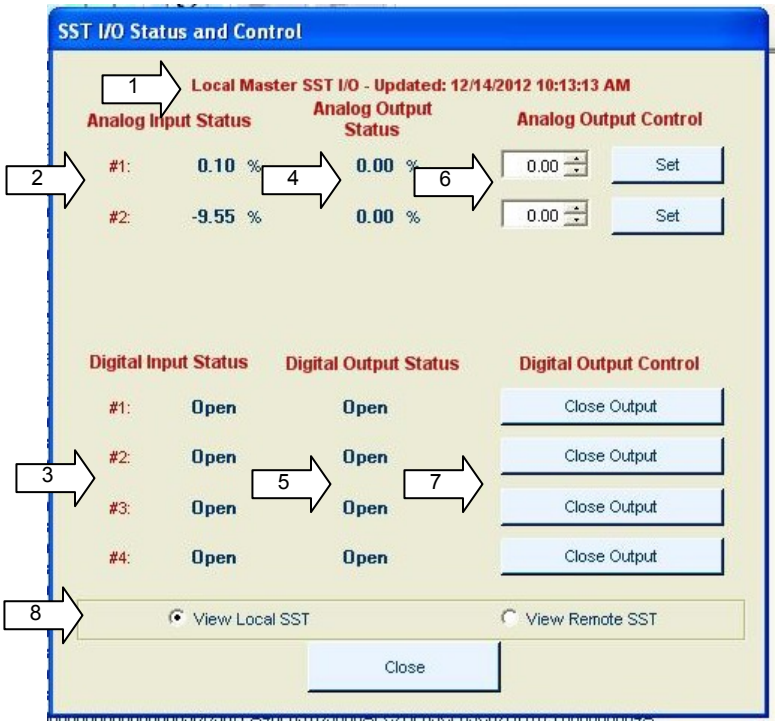
9.2. Loss of Communications Settings


Loss of Communications Settings
1
Set Outputs to Known State After Loss of Communications
2
Set After:
1
Seconds of No Communications
3
Analog Output #1: Hold Value Set To: 0 %
Analog Output #2: Hold Value Set To: 0 %
4
Digital Output #1: Hold Value Open Closed
Digital Output #2: Hold Value Open Closed
Digital Output #3: Hold Value Open Closed
Digital Output #4: Hold Value Open Closed
5
Read Settings from SST
6
Send Settings to SST and Close
7
Cancel

1. Enables Loss of Communications checking.
2. Time interval used to detect loss of communications. If the outputs have not been updated within the specified time then the outputs will be set as indicated on this screen. Range 1 to 43200 seconds.
3. Analog Output settings. Outputs may be held at last value transferred or set to a specific value when communications is lost. Range -25 to 120 percent.
4. Digital Outputs settings. Outputs may be held at last value transferred, opened or closed when communications is lost.
5. Re-reads the current settings from the SST.
6. Sends the Loss of Communications Settings to the SST then returns to the menu.
7. Returns to the menu without modifying the Loss of Communications Settings.

9.3. I/O Status and Control

NOTE: The I/O Status and Control screen is intended for diagnostics and will stop the normal transferring of I/O from one site to the other when displayed.

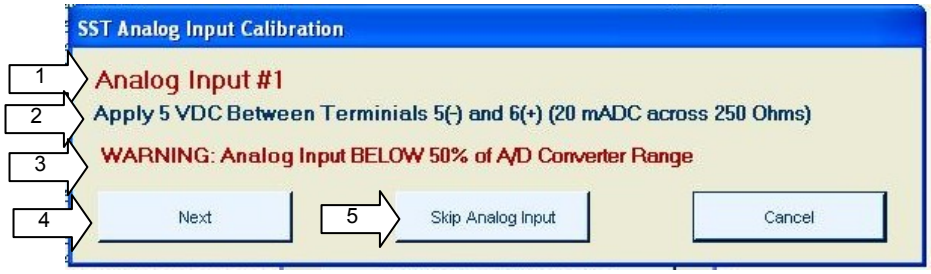


1. Last time the displayed I/O values were updated.
2. Analog Input status as a percent.
3. Digital Input status.
4. Analog Output status as a percent.
5. Digital Output status.
6. Analog Outputs settings. To change an analog Output Value enter the new value in the box and click the *Set* button.
7. Digital Output setting. Click the *Open Output* or *Close Output* button to toggle the output from open to closed.
8. Selects which SST status to display. View Local SST shows the status of the SST connected to the USB cable. View Remote SST uses the radio to view the status of the remote SST. (Only displayed when Site to Site transfer is selected and the USB cable is connected to the Master SST. A Master SST has a jumper installed between terminals 2 and 4.)

9.4. Calibrate Analog Inputs

Calibrating the Analog Inputs is a multiple step process. When you select Calibrate Analog Inputs from the menu the resulting screens will step you through this process.

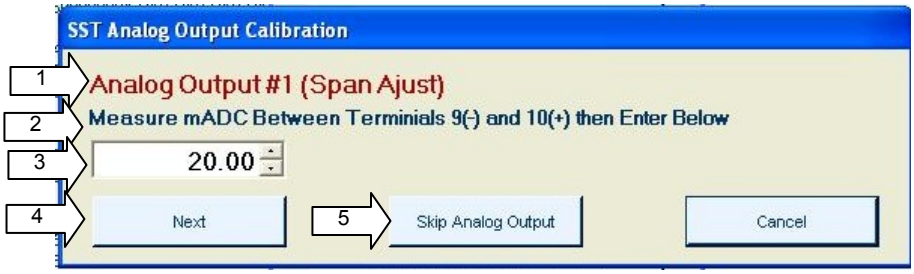
NOTE: Analog Input Calibration should only be attempted when you have 1 to 5 VDC source. 1 VDC = 0 %, 5 VDC = 100%



1. Analog Input being calibrated
2. Calibration step. Typically requesting either 1 VDC or 5 VDC
3. Warning message indicating the input voltage is above or below 3 VDC or 50 percent.
4. Advances to the next step
5. Skips the currently selected Analog Input. Use to skip inputs that do not require calibration to be modified.

9.5. Calibrate Analog Outputs

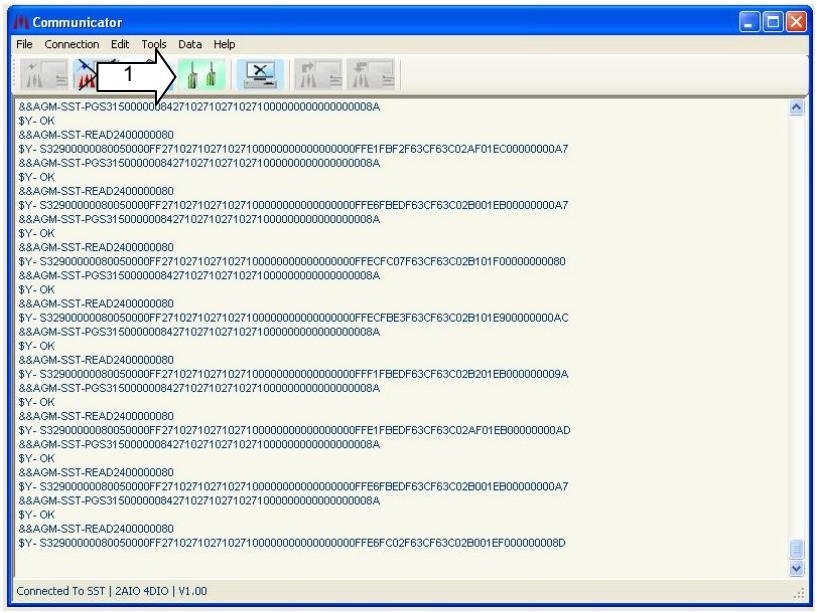
Calibrating the Analog Outputs is a multiple step process. When you select Calibrate Analog Outputs from the menu the resulting screens will step you through this process.



1. Analog Output being calibrated
2. Calibration step
3. Enter measured values here
4. Advances to the next calibration step
5. Skips the currently selected Analog Output. Use to skip outputs that do not require calibration to be modified.

9.6. Communicate Directly with SST via Terminal Emulator

When you select this option you can communicate directly with the radio in the SST. Typically this option is used only for diagnostics or setting more advance options within the radio section of the SST.



1. Click on this button to return to the SST menu

9.7. Exit Communicator

Click on this menu button to close the Communicator program.

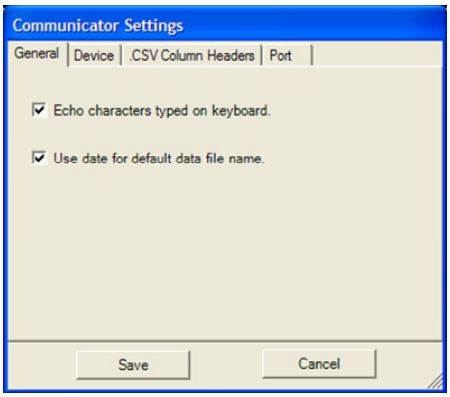
NOTE: Before disconnecting the USB cable from the SST you should always close the Communicator program. Alternately you may disconnect form the SST by selecting the Terminal Emulator button then clicking the disconnect button. Disconnecting the USB cable without closing the program or disconnecting can cause the Communicator to stop functioning correctly.

10. Manually Changing Settings

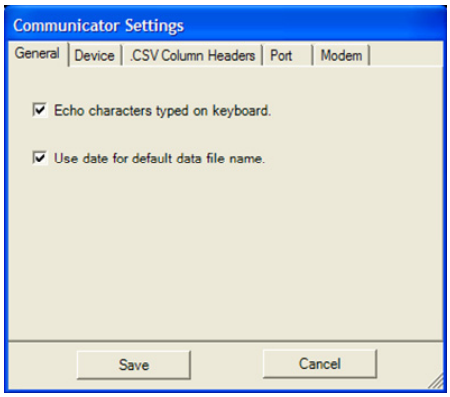
10.1. General

The following Screen Images show the tabs that are displayed for the different Device selections.

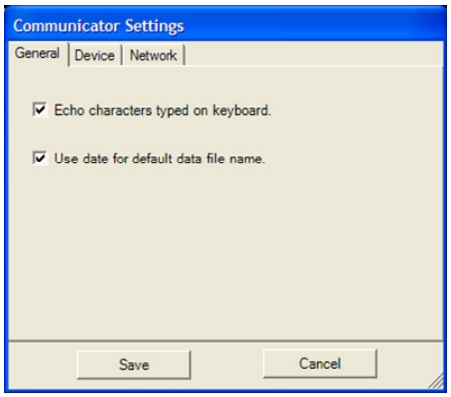
Data Handler
(Direct Connect)



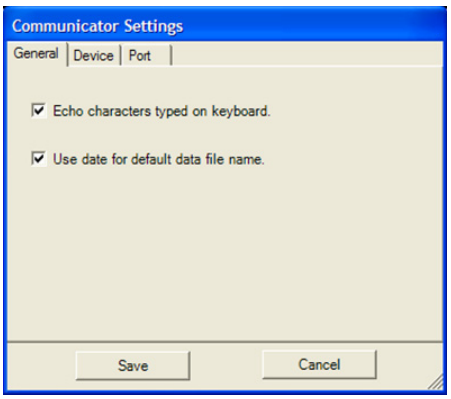
Data Handler
(Modem Connect)



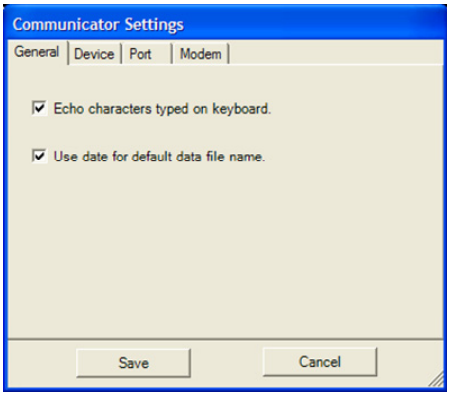
Data Controller / UWS



Any Device
(Direct Connect)



Any Device
(Modem Connect)



The *General* tab provides the options of -

- Selecting whether or not Keyboard character entries are echoed in the Terminal Window when they are typed.
- Whether or not **Communicator** automatically creates a file name based on the PC's internal date.

10.2. Device

This Tab selection lets you select the type of device you are intending to communicate with.

NOTES:

The Tab options will change based on the selected device. (See 9.1 to view available Tabs based on the selected Device)

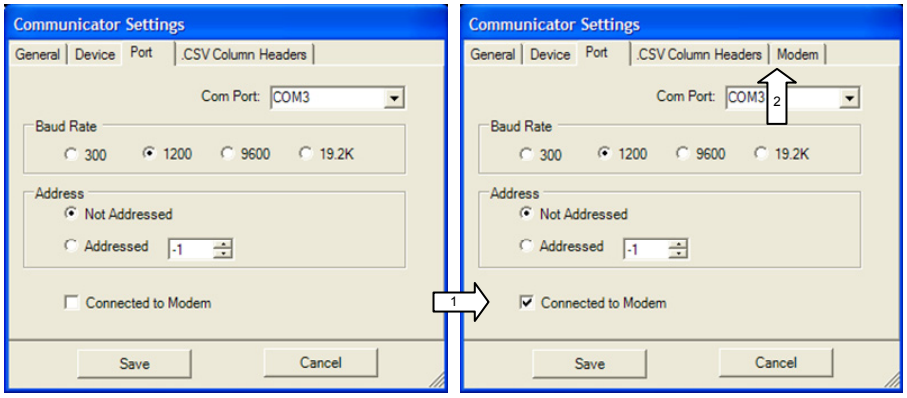
Also, selecting *Any Device* will bypass **AutoConnect** allowing **Communicator** to be used as a stand-alone Terminal Emulator Program

10.3. Port

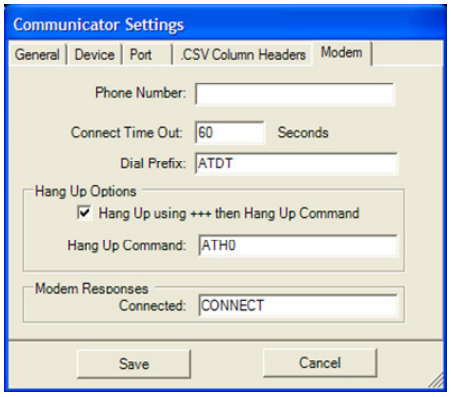
This Tab is only available when the Device you will be communicating with will be via the serial port.

From here you can select *Connect to Modem* 1 which will allow you to remotely connect to a device through dial-up modems. Select *Modem* Tab 2 select the settings for the modem. See Appendix 1 for Device connections requirements.

From this Tab you can view the results of **AutoConnect** (Data Handler only) or manually change the Port settings.

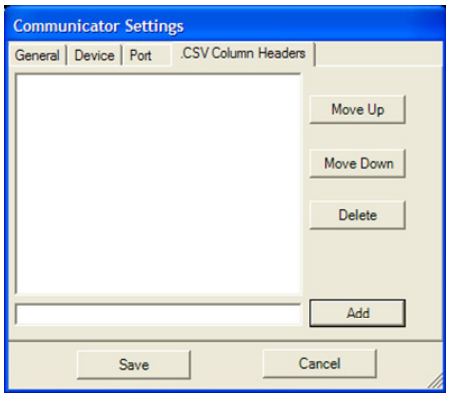


10.4. Modem



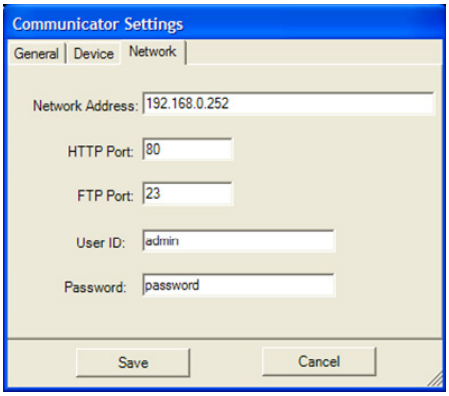
10.5. CSV File Header

The store data in the Data Handler does have data column headers but you can create column headings for the Uploaded Data so when the *.csv file is imported, the column headings will already be defined.



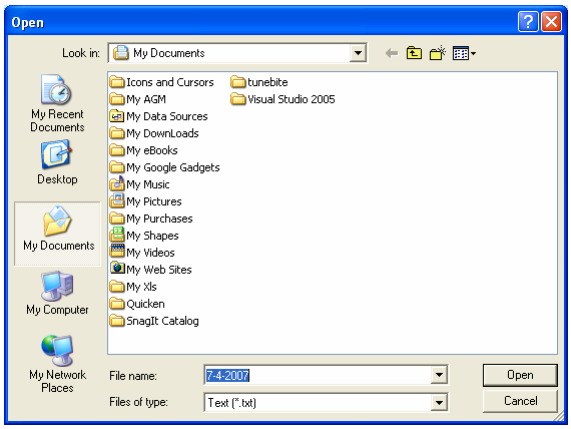
10.6. Network

This Tab allows you to set the following Network access information -



11. Capturing Terminal Window Data to a File (Serial Connections Only)

When you select Capture *Data…* from File Menu, Data the following Window will appear –

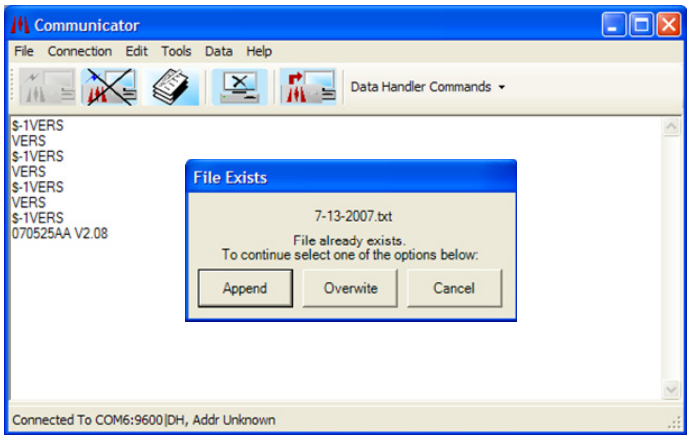


Note – The default name of the File will be the PC's date (mm-dd-yyyy) and will be saved as a *.txt file type that can be viewed by a number of software application programs including Microsoft's NotePad. If you would like a different file name, you can change it at this time.

The default location of where the file will be created is My Documents for the current PC user. You can select another location such as the Desk Top at this time as well.

When ready, select *Save* to continue.

If a file with the same name is detected, you see the following –



Select *Append* if you would like the data added to the existing file, *Overwrite* if you want the file replaced or C*ancel* if you would like the opportunity to select another file name.

If you continue, then the file will be opened and any characters sent to the Terminal Window will be saved the file whether they are from the PC's Key Board or the connected device.

You can Pause or Stop the Capture routine at any time by selecting *Stop Capture of Text* or *Pause Capture of Text* from the Menu Item Data.

The Status Bar will also show when the Terminal Window text is being captured.

12. Clearing the Terminal Screen

Selecting *Clear Screen* will clear the Terminal Window. You can also clear the Terminal Screen by selecting *Clear Screen* from the Menu Item under Tools.

13. Cut, Copy and Paste

The File Menu item, Edit, includes *Cut*, *Copy* and *Paste* commands for easy selection of data from the Terminal Window and insertion of the data into other operating PC programs such as Microsoft's application program, Word.

14. Disconnecting and Connecting (Serial Connections Only)

At any time, you may disconnect by selecting *Disconnect.* Disconnecting only releases the Com Port.

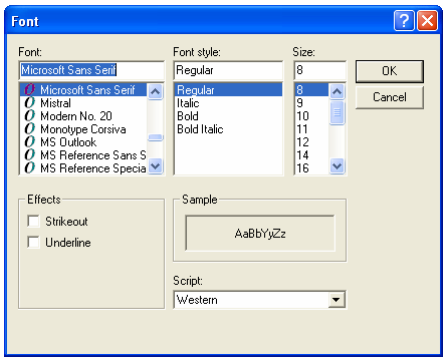
Once an initial connection has been made, you can *Connect* and *Disconnect* at any time without having to run **AutoConnect** again.

15. Connect/Home, Cancel, Refresh/Reload (Ethernet Connections Only)

At any time, you can go to the Home Page by selecting *Connect/Home* or refresh the existing page by selecting *Refresh.* You can select *Cancel* while **Communicator** is refreshing a Page or opening the Home Page.

16. Changing the Font Size in the Terminal Window

Under File Menu item, Tools, selecting *Font Setup…* will allow you to change Font and Font size displayed in the Terminal Window.

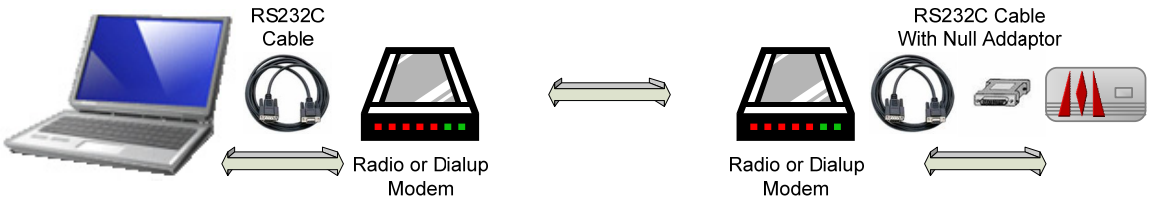


Appendix 1

1. Connecting the PC to the Data Handler (DH)

1.1. Connecting the PC directly to the Data Handler (DH). See Note if no RS232C port on PC.

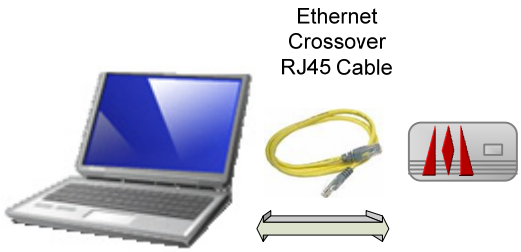
1.2. Connecting the PC to the Data Handler (DH) using a Dialup or Radio communications system. See Note if no RS232C port on PC.



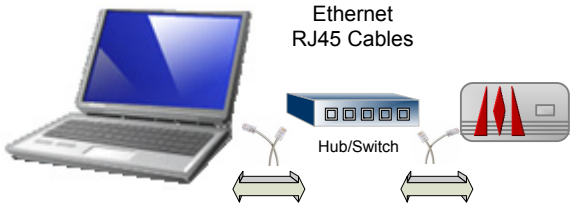
Note: If no RS232C port on PC use USB to Serial Adapter (Tripp-Lite Model:U209-000-R)

2. Connecting the PC to the Data Controller (DC) or the UWS

2.1. Connecting the PC directly to



2.2. Connecting the PC over a network

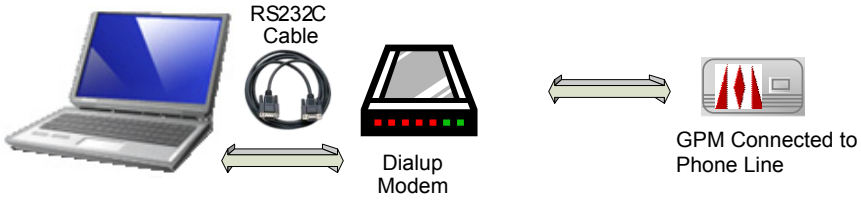


3. Connecting the PC to the Site to Site Transfer module (SST)

4. Connecting the PC to the GPM

4.1. Connecting the PC directly to the GPM. See Note if no RS232C port on PC.

4.2. Connecting the PC to the GPM using a Dialup communications system. See Note if no RS232C port on PC.



Note: If no RS232C port on PC use USB to Serial Adapter (Tripp-Lite Model:U209-000-R)